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| APPLICATION NO.                                                                                                | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.      | CONFIRMATION NO.       |
|----------------------------------------------------------------------------------------------------------------|-------------|----------------------|--------------------------|------------------------|
| 10/827,260                                                                                                     | 04/20/2004  | Taisuke Hosokawa     | P15657-A YAM.058         | 2397                   |
| 21254                                                                                                          | 7590        | 05/29/2007           |                          |                        |
| MCGINN INTELLECTUAL PROPERTY LAW GROUP, PLLC<br>8321 OLD COURTHOUSE ROAD<br>SUITE 200<br>VIENNA, VA 22182-3817 |             |                      | EXAMINER<br>FLORES, LEON |                        |
|                                                                                                                |             |                      | ART UNIT<br>2611         | PAPER NUMBER           |
|                                                                                                                |             |                      | MAIL DATE<br>05/29/2007  | DELIVERY MODE<br>PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

|                              |                 |                   |
|------------------------------|-----------------|-------------------|
| <b>Office Action Summary</b> | Application No. | Applicant(s)      |
|                              | 10/827,260      | HOSOKAWA, TAISUKE |
|                              | Examiner        | Art Unit          |
|                              | Leon Flores     | 2611              |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### **Status**

- 1) Responsive to communication(s) filed on 20 April 2004.
- 2a) This action is FINAL.                                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### **Disposition of Claims**

- 4) Claim(s) 1-4 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-4 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### **Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 20 April 2004 is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### **Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### **Attachment(s)**

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 8/10/2006.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Drawings*

1. Figures 7 & 8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. **Claims (1-4) are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirata (US Publication 2001/0004373 A1) in view of Kondo (US Patent 6,597,728 B1), and further in view of Maltsev et al (hereinafter Maltsev) (US Publication 2004/0190438 A1).**

Re claim 1, Hirata discloses a frequency offset detection processing system including a TCXO (Temperature Compensated Crystal Oscillator, Temperature Compensated X'tal Oscillator) which generates a reference frequency, a demodulation unit which demodulates a reception signal, a frequency offset detection unit which detects a frequency offset from a phase moving amount between symbols of adjacent pilot signals, and an AFC (Auto Frequency Control) control unit (See fig. 7), wherein said AFC control unit comprises a TCXO control unit which corrects TCXO control on the basis of the frequency offset calculated by said correction value calculation unit. (See fig. 7)

But the reference of Hirata fails to specifically disclose an averaging processing unit which executes processing for adding the phase moving amount detection values read out from said frequency offset detection unit and converted by said detection value

conversion unit and dividing a sum by the number of added values, a correction value calculation unit which calculates a frequency offset from the phase moving amounts after averaging processing by said averaging processing unit.

However, Kondo does. (See fig. 2) Kondo discloses an averaging processing unit which executes processing for adding the phase moving amount detection values read out from said frequency offset detection unit (See fig. 2: 4 & 5), a correction value calculation unit which calculates a frequency offset from the phase moving amounts after averaging processing by said averaging processing unit. (See fig. 2: 6)

Therefore, taking the combined teachings of Hirata and Kondo as a whole. It would have been obvious to one of ordinary skill in the art to have incorporated these features into the system of Hirata, in the manner as claimed, and as taught by Kondo, for the benefit of determining frequency correction. (See col. 8, lines 31-35)

The combination of Hirata and Kondo discloses the limitations as claimed above, except they do not specifically disclose a majority determination unit which determines whether each of phase moving amount detection values by a plurality of frequency offsets, which are detected for a predetermined time and read out from said frequency offset detection unit, is a positive value or a negative value, and totalizes to determine which of the positive values and the negative values are larger in number, a detection value conversion unit which converts the phase moving amount detection values read out from said frequency offset detection unit in accordance with a majority determination result from said majority determination unit.

However, Maltsev does. (See fig. 2: 200 & paragraph 27) Maltsev discloses a phase corrector that adjusts phase shift by a multiple of 360 degrees. When the phase difference exceeds 180 degrees, and the sign of the first phase shift estimate is positive it adds +360. However, when the sign is negative it adds -360. Furthermore, one skilled in the art would know that frequency correction may be employed by taking the average phase shifts between adjacent symbols. In this case, if we take the average at the output of the phase corrector, when the phase has been corrected, the frequency can be corrected.

Therefore, taking the combined teachings of Hirata, Kondo, and Maltsev as a whole. It would have been obvious to one of ordinary skill in the art to have incorporated these features into the system of Hirata, as modified by Kondo, in the manner as claimed, and as taught by Kondo, for the benefit of determining frequency correction.

Re claim 2, A system according to claim 1, the combination of Hirata, Kondo, and Maltsev further discloses that wherein in converting the phase moving amount detection values, when it is determined as the majority determination result that the number of negative detection values is smaller, said detection value conversion unit converts the negative detection values to +360.degree.+negative detection values (See fig. 2: 200 & paragraph 27), and when it is determined as the majority determination result that the number of positive detection values is smaller, said detection value conversion unit

converts the positive detection values to -360 degree.+positive detection values. (See fig. 2: 200 & paragraph 27)

Claim 3 is a method claim corresponding to system claim 1. Hence, the elements in system claim 1 would have necessitated the steps performed in method claim 3. Therefore, claim 3 has been analyzed and rejected w/r to claim 1 above.

Claim 4 is a method claim corresponding to system claim 2. Hence, the elements in system claim 2 would have necessitated the steps performed in method claim 4. Therefore, claim 4 has been analyzed and rejected w/r to claim 2 above.

### ***Contact***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leon Flores whose telephone number is 571-270-1201. The examiner can normally be reached on Mon-Fri 7-5pm Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LF  
April 23, 2007

*David C. Payne*  
DAVID C. PAYNE  
SUPERVISORY PATENT EXAMINER